

Missouri Department of Natural Resources

## Total Maximum Daily Load Information Sheet

### Hays Creek

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#### Water Body Segment at a Glance:

<b>County:</b>	Ralls
<b>Nearby City:</b>	Center
<b>Water Body ID:</b>	97
<b>Segment Length:</b>	2 miles
<b>Watershed Size:</b>	14.8 square miles
<b>Pollutant:</b>	Aquatic Macroinvertebrate Bioassessments
<b>Source:</b>	Unknown



Statewide Map Showing Location of Watershed

**Scheduled for TMDL development:** 2022

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### Description of the Problem

#### Designated beneficial uses of Hays Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health (Fish Consumption)
- Whole Body Contact Recreation – Category B

#### Uses that are impaired

- Protection of Warm Water Aquatic Life

#### Standards that apply

The state's general water quality criteria at 10 CSR 20-7.031(3) are applicable to all waters of the state at all times. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

- Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal, or aquatic life [10 CSR 20-7.031(3)(D)].
- Waters shall be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(3)(G)].

## Background information and water quality data

Hays Creek is a rural stream and is a tributary to Spencer Creek in Ralls County. Aquatic invertebrate samples were collected from Hays Creek in 2008 and 2009. These samples were analyzed and a score was determined to indicate the health of the aquatic community based on the numbers and types of species present. Scores of 16 or greater are considered healthy and reflect an unimpaired condition. Scores less than 16 indicate an impaired condition, which may be caused by toxicity or habitat issues within the waterway. Additional monitoring may be necessary to determine if the cause of the low scores is due to a chemical or physical condition.

Invertebrate communities are judged to be impaired if the percent of sampling sites receiving a score of 16 or more is significantly less than for reference streams within the same ecological drainage unit. If there are seven or fewer samples, as in the case of Hays Creek, the department judges a stream as impaired if at least 75 percent of the samples score less than 16. For Hays Creek, all three samples collected scored less than 16. For this reason, the stream was judged to be impaired and was included on the 2012 303(d) List of impaired waters.

However, a more recent assessment completed in preparation for submittal of the proposed 2014 303(d) List to the U.S. Environmental Protection Agency, compared the data collected from Hays Creek to other similar sized reference streams. This assessment found that these other control streams also scored less than 16. Since the scores calculated for Hays Creek did not differ significantly from the control streams, the department will propose that Hays Creek be delisted from the 2014 303(d) list.

### Hays Creek Invertebrate Community Data

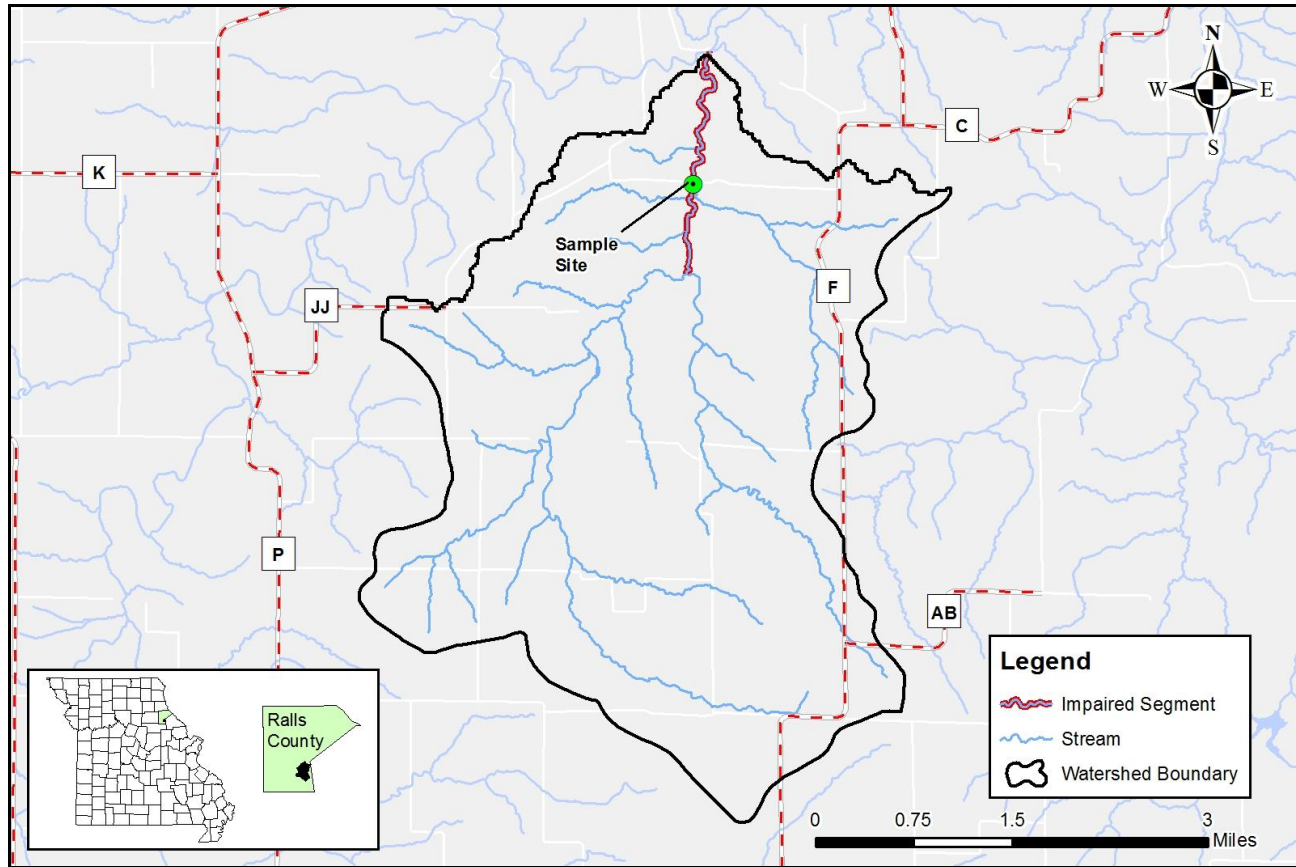
<i>Sampling Organization</i>	<i>Sampling Site</i>	<i>Sampling Location</i>	<i>Date</i>	<i>Score</i>
MoDNR	97/1.3	Hays Cr. ab. Bridgewater Lane	Spring 2008	14
MoDNR	97/1.3	Hays Cr. ab. Bridgewater Lane	Fall 2008	11*
MoDNR	97/1.3	Hays Cr. ab. Bridgewater Lane	Spring 2009	14

\* average of two samples

### Reference Stream Invertebrate Community Data

<i>Control Stream</i>	<i>MSCI Score</i>		<i>Average Score</i>
	<i>Fall 2008</i>	<i>Spring 2009</i>	
N Fk Cuivre R.	12	14	13
Big Cr.	16	12	14
Sugar Cr.	14	16	15
South River	16	14	15

## Map Showing the Hays Creek Watershed



### For more information call or write:

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Water Protection Program

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573-526-6802 fax

Program Home Page: [dnr.mo.gov/env/wpp/index.html](http://dnr.mo.gov/env/wpp/index.html)

NOTE: The final Hays Creek TMDL will use the most recent and available data and information.